

Unit 10

Day 4

Odds & Ends

Section 2.7 of textbook

## QUICK QUIZ:

NAME:

DATE:

PERIOD:

Solve. Write solution set in interval notation and graph.

$$2k^2 - 9k > -4$$

Use the discriminant to find the value(s) of  $k$  such that the given quadratic will have only real solutions.

1)

$$x^2 + kx + 3 = 0$$

$$a = 1$$

$$b = k$$

$$c = 3$$

$$b^2 - 4ac$$

$$k^2 - 4(1)(3) \geq 0$$

$$k^2 - 12 \geq 0$$


$$k^2 \geq 12$$

$$k \geq \pm\sqrt{12}$$

$$k \geq \pm 2\sqrt{3}$$

$$(-\infty, -2\sqrt{3}] \cup [2\sqrt{3}, \infty)$$

Use the discriminant to find the value(s) of  $k$  such that the given quadratic will have only real solutions.

2)  $kx^2 + 8x + k = 0$

3) Find a quadratic inequality with the following solution.

$$(-\infty, 2] \cup [6, \infty)$$

4) Find a rational inequality with the following solution.

$$[-3, 2)$$

5) The cost ( $c$ ) to produce  $x$  chocolate bars is  
 $c = 1.25x + 5000$ ; the revenue ( $r$ ) is  $r = 1.5x$ . Find all  
of the values of the chocolate bars that must be  
produced to at least break even.

NOTE: In order for a company to "break even", their  
revenues must equal or exceed their costs.

HW pg 147-148 25,26,60,61,71-78 all & Extra problems

Extra problems:

Use the discriminant to find the value(s) of  $k$  such that the given quadratic will have only real solutions.

1)  $x^2 - kx + 8 = 0$

2)  $x^2 + kx - 5 = 0$

3)  $x^2 + kx + 2k = 0$

4)  $kx^2 + 4x + k = 0$